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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,402	02/25/2004	Shinichi Ogimoto	SAS2-PT069	2893

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EXAMINER	
KOCH, GEORGE R	

ART UNIT	PAPER NUMBER
1734	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/786,402	OGIMOTO, SHINICHI	
	Examiner	Art Unit	
	George R. Koch III	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) *1-8 and 14-24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of group II, claims 9-13 in the reply filed on 4/11/2005 is acknowledged. The traversal is on the ground(s) that there is no search burden. This is not found persuasive because, with respect to the method claims versus the apparatus claims, there clearly is a search burden resultant from the additional search requirement. Within the apparatus claims, irrespective of the search burden, there clearly is a prosecution burden. Group II and Group III and would require separate examinations and separate analyses, dramatically adding to the burden on the patent office. There appears to be virtually no overlap between these two apparatus groups beyond what was already admitted prior art (i.e., the bonding of the substrates).

The requirement is still deemed proper and is therefore made FINAL.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 9, 10, 12, and 13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 or 2 of copending Application No. 10/372,453 in view of Yakou (US 5,855,637).

Claims 1 and 2 each recite an apparatus which can be used for bonding substrates, comprising an image pickup device, a moving device similar to the holding device, and a control device/data acquiring device.

However, Application 10/372,473, while claiming a moving device similar to the holding device, does not go into further detail as to the holding device, or that the control devices utilizes correction coefficients as claimed.

Yakou also discloses an apparatus (Figure 1-15) for bonding substrates and is capable of bonding at least one of two substrates applied with a sealing agent to seal a liquid material and the two substrates are bonded to each other by this sealing agent, the apparatus being characterized by comprising: a holding device (Figure 2, items 16 and 24 - see column 8, lines 11-27) which holds one substrate and the other substrate apart from each other in a vertical direction and which relatively drives these substrates in X, Y, Z, and theta (column 8 - axis adjustment table 28 provides the X, Y and theta axes, and Z-axis UP-down drive means provide the Z axis) directions to bond the two substrates to each other; an image pickup device (CCD cameras 36a and 36b) which picks up images of the two substrates held by the holding device; and a control device (see Figure 13) which is capable of obtaining and discloses a positional shift amount between the two substrates based on an image pickup result of the image pickup device and which moves at least one of the two substrates by a correction movement amount

(via M1, M2, M3, and M4, and see column 18, line 60 to column 19, line 38) obtained by multiplying the positional shift amount by a correction coefficient which is larger than 1 to correct a positional shift between these substrates. One in the art would immediately appreciate that these element s ensure proper bonding and efficient, accurate alignment. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such holding devices and control devices in order to achieve proper bonding and efficient, accurate alignment.

As to claims 10 and 12, Application 10/372,473 discloses memory devices (see claims 4 and 5). Similarly, Yakou as incorporated discloses storing correction coefficients (called coordinate conversion coefficients) in a storage device (RAM 186 - see column 9, lines 1-15). This structure is capable of storing coefficients greater that 1.

As to claim 13, the apparatus and control device of Yakou as incorporated is capable of carrying out the claimed control operation. Furthermore, Yakou discloses that the correction analysis is a function as claimed (see column s 19-28, and for example, equations 23-25 in column 24, as well as equations 1-30 in general).

This is a provisional obviousness-type double patenting rejection.

4. Claim 9 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 or 2 of copending Application No. 10/372,453 in view of Yakou (US 5,855,637) and Mishima (2003/0053059)

Application 10/372,453 and Yakou do not disclose that the image pickup device comprises: a first image pickup device which picks up images of the two substrates held apart from each other in the vertical direction; a second image pickup device which picks up images of the two substrates brought closer to each other as compared with an image pickup time by the first image pickup device and whose image pickup magnification is higher than that of the first image pickup device; and a positioning device which positions at least one of the first and second image pickup devices accordance with an image pickup position at a time when the images of the substrates are picked up by the first and second image pickup devices.

Mishima discloses that the image pickup device comprises: a first image pickup device (Figure 4, item S1) which picks up images of the two substrates held apart from each other in the vertical direction; a second image pickup device (Figure 4, item S2) which picks up images of the two substrates brought closer to each other as compared with an image pickup time by the first image pickup device and whose image pickup magnification is higher than that of the first image pickup device (see paragraphs 0064-0065, 0073 and 0080); and a positioning device (see paragraphs 0083-0088) analogous to the positioning device of Yakou which positions at least one of the first and second image pickup devices accordance with an image pickup position at a time when the images of the substrates are picked up by the first and second image pickup devices. Mishima discloses (in paragraph 0088) that this processing pattern reduces the stage moving time. Mishima also discloses that the double magnification system results in reduce error (paragraph 0080). Therefore, it would have been obvious to one of

ordinary skill in the art at the time of the invention to have used the dual image pickup devices, with one at a higher magnification in order to reduce error and improve stage moving and aligning time.

This is a provisional obviousness-type double patenting rejection.

Claims 9-13 are directed to an invention not patentably distinct from claims 1-5 of commonly assigned invention 10/372,453. Specifically, see the double patenting rejection above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302). Commonly assigned 10/372,453, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 9, 10, 12, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yakou (US 5,855,637).

Yakou discloses an apparatus (Figure 1-15) for bonding substrates and is capable of bonding at least one of two substrates applied with a sealing agent to seal a liquid material and the two substrates are bonded to each other by this sealing agent, the apparatus being characterized by comprising: a holding device (Figure 2, items 16 and 24 - see column 8, lines 11-27) which holds one substrate and the other substrate apart from each other in a vertical direction and which relatively drives these substrates in X, Y, Z, and theta (column 8 - axis adjustment table 28 provides the X, Y and theta axes, and Z-axis UP-down drive means provide the Z axis) directions to bond the two substrates to each other; an image pickup device (CCD cameras 36a and 36b) which

picks up images of the two substrates held by the holding device; and a control device (see Figure 13) which is capable of obtaining and discloses a positional shift amount between the two substrates based on an image pickup result of the image pickup device and which moves at least one of the two substrates by a correction movement amount (via M1, M2, M3, and M4, and see column 18, line 60 to column 19, line 38) obtained by multiplying the positional shift amount by a correction coefficient which is larger than 1 to correct a positional shift between these substrates.

As to claims 10 and 12, Yakou discloses storing correction coefficients (called coordinate conversion coefficients) in a storage device (RAM 186 - see column 9, lines 1-15). This structure is capable of storing coefficients greater that 1.

As to claim 13, the apparatus and control device of Yakou is capable of carrying out the claimed control operation. Furthermore, Yakou discloses that the correction analysis is a function as claimed (see column s 19-28, and for example, equations 23-25 in column 24, as well as equations 1-30 in general).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yakou as applied to claim 9 above, and further in view of Mishima (2003/0053059)

Yakou does not discloses that the image pickup device comprises: a first image pickup device which picks up images of the two substrates held apart from each other in the vertical direction; a second image pickup device which picks up images of the two substrates brought closer to each other as compared with an image pickup time by the first image pickup device and whose image pickup magnification is higher than that of the first image pickup device; and a positioning device which positions at least one of the first and second image pickup devices accordance with an image pickup position at a time when the images of the substrates are picked up by the first and second image pickup devices.

Mishima discloses that the image pickup device comprises: a first image pickup device (Figure 4, item S1) which picks up images of the two substrates held apart from each other in the vertical direction; a second image pickup device (Figure 4, item S2) which picks up images of the two substrates brought closer to each other as compared

with an image pickup time by the first image pickup device and whose image pickup magnification is higher than that of the first image pickup device (see paragraphs 0064-0065, 0073 and 0080); and a positioning device (see paragraphs 0083-0088) analogous to the positioning device of Yakou which positions at least one of the first and second image pickup devices accordance with an image pickup position at a time when the images of the substrates are picked up by the first and second image pickup devices. Mishima discloses (in paragraph 0088) that this processing pattern reduces the stage moving time. Mishima also discloses that the double magnification system results in reduce error (paragraph 0080). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the dual image pickup devices, with one at a higher magnification in order to reduce error and improve stage moving and aligning time.

10. Claims 9, 10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being obvious over application 10/372,453 in view of Yakou.

See the provisional obviousness-type double patenting rejection of claims 19, 10, 12, and 13 above applying the same references.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an

invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being obvious over application 10/372,453 and Yakou as applied to claim 9 above, and further in view of Mishima.

See the provisional obviousness-type double patenting rejection of claim 11 above applying the same references.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject

matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

George R. Koch III
Patent Examiner
Art Unit 1734

GRK
6/7/2005